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IN THE CLAIMS:

Please amend the claims to read as follows:

1. (Currently amended) A computer program product, for use with a computer system, for directing the computer system to execute a search of information resources, the resources having content-based links between each other, to identify a desired subset of the information resources which satisfy a desired criterion, the computer program product comprising:

a computer-readable recording medium;

means, provided on the recording medium, for directing the computer system to identify an initial set of information resources;

means, provided on the recording medium, for directing the computer system to define initial authoritativeness information for the initial set;

means, provided on the recording medium, for directing the computer system to use the initial authoritativeness information as input authoritativeness information, to execute the steps of:

(i) producing first authoritativeness information about a set of information resources pointed to by links in resources of the input set, and

(ii) producing second authoritativeness information about a set of information resources having links that point to resources of the input set; and

means, provided on the recording medium, for directing the computer system to produce a final set of information resources based on the first and second authoritativeness information.

2. (Original) A computer program product as recited in claim 1, wherein the information resources include World Wide Web pages, and the content-based links include hyper-links.

3. (Original) A computer program product as recited in claim 1 , wherein the means for directing to identify an initial set of information resources includes means, provided on the recording medium, for directing the computer system to obtain, as an input, an information resource containing subject matter of interest.

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4. (Original) A computer program product as recited in claim 3, wherein the means for directing to identify an initial set of information resources includes means, provided on the recording medium, for directing the computer system to obtain, as an input, an information resources linked to the input information resource.

5. (Original) A computer program product as recited in claim 1, wherein:

the means for directing to execute the steps of producing first and second authoritativeness information is operative in a series of iterations;

the initial authoritativeness information is used as input authoritativeness information for a first iteration; and

the produced first and second authoritativeness information is a result of the iteration, the first and second authoritativeness information produced in a given iteration to be used as the input authoritativeness information for the next iteration.

6. (Original) A computer program product as recited in claim 1 further comprising

means, provided on the recording medium, for directing the computer system to execute the steps of producing first authoritativeness information and producing second authoritativeness information in a series of iterations until a predetermined condition is met.

7. (Original) A computer program product as recited in claim 6, wherein the predetermined condition includes the execution of a specified number of iterations.

8. (Original) A computer program product as recited in claim 6, wherein the predetermined condition includes a steady state in which further iterations result in substantially the same results.

9. (Original) A computer program product as recited in claim 6, wherein the means for directing to identify an initial set of information resources includes means, provided on the recording medium, for directing the computer system to execute a keyword-based query search,

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results of the search including information resources to be included in the initial set.

10. (Original) A computer program product as recited in claim 9, wherein the means for directing to identify an initial set of information resources includes means, provided on the recording medium, for directing the computer system to identify information resources linked to or from the information resources which are the results of the search, the former information resources also to be included in the initial set.

11. (Original) A computer program product as recited in claim 10, wherein the means for directing to define initial authoritativeness information includes means, provided on the recording medium, for directing the computer system to select an initial numerical authoritativeness value for each of the information resources of the initial set.

12. (Original) A computer program product as recited in claim 11, wherein the means for directing to define initial authoritativeness information further includes means, provided on the recording medium, for directing the computer system to define an authority value and a hub value for each of the information resources of the initial set.

13. (Original) A computer program product as recited in claim 12, wherein the defined authority values and hub values are processed as vectors, each vector containing a respective term corresponding with each respective one of the information resources of the initial set, and having stored therein the value defined for that respective one of the information resources of the initial set.

14. (Original) A computer program product as recited in claim 12, wherein:

an initial hub value is defined as 1 if the information resource was found by the keyword-based query search, and 0 if the information resource is linked to or from the information resources which are the results of the search; and

an initial authority value is defined as 0 for all information resources.

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15. (Original) A computer program product as recited in claim 12, wherein for each iteration:

the hub value for an information resource is updated as the sum of the authority values for authority information resources which point to the hub information resource; and

the authority value for an information resource is updated as the sum of the hub values for hub information resources which are pointed to by the information resource.

16. (Original) A computer program product as recited in claim 15, wherein each iteration further includes normalizing the hub and authority values for the information resources.

17. (Original) A computer program product as recited in claim 1 , wherein the means for directing to produce a final set of information resources includes means, provided on the recording medium, for directing the computer system to select information resources from the set based on their hub and authority values.

18. (Original) A computer program product as recited in claim 17, wherein the means for directing to select includes means, provided on the recording medium, for directing the computer system to select information resources whose hub values or authority values have greatest magnitudes.

19. (Original) A computer program product as recited in claim 17, wherein the means for directing to select includes means, provided on the recording medium, for directing the computer system to select a plurality of successive communities, selecting each successive community including selecting information resources whose hub values or authority values have greatest magnitudes of those information resources not already selected for a prior community.

20. (Currently amended) A method for executing a search of information resources, the resources having content-based links between each other, to identify a desired subset of the information resources which satisfy a desired criterion, the method comprising the steps of:

identifying in a computer an initial set of information resources;

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defining in a computer initial authoritativeness information for the initial set;

using in a computer the initial authoritativeness information as input authoritativeness information, executing the steps of:

(i) producing first authoritativeness information about a set of information resources pointed to by links in resources of the input set , and

(ii) producing second authoritativeness information about a set of information resources having links that point to resources of the input set; and

producing in a computer a final set of information resources based on the first and second authoritativeness information.

21. (Original) A method as recited in claim 20, wherein the information resources include World Wide Web pages, and the content-based links include hyperlinks.

22. (Original) A method as recited in claim 20, wherein the step of identifying an initial set of information resources includes obtaining, as an input, an information resource containing subject matter of interest.

23. (Original) A method as recited in claim 22, wherein the step of identifying an initial set of information resources includes obtaining, as an input, an information resource containing subject matter of interest.

24. (Original) A method as recited in claim 20, wherein:

the step of executing the steps of producing first and second authoritativeness information is executed in a series of iterations;

the initial authoritativeness information is used as input authoritativeness information for a first iteration; and

the produced first and second authoritativeness information is a result of the iteration, the first and second authoritativeness information produced in a given iteration to be used as the input authoritativeness information for the next iteration.

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25. (Original) A method as recited in claim 20, wherein the steps of producing first authoritativeness information and producing second authoritativeness information are executed in a series of iterations until a predetermined condition is met.

26. (Original) A method as recited in claim 25, wherein the predetermined condition includes the execution of a specified number of iterations.

27. (Original) A method as recited in claim 25, wherein the predetermined condition includes a steady state in which further iterations result in substantially the same results.

28. (Original) A method as recited in claim 25, wherein the step of identifying an initial set of information resources includes executing a keyword-based query search, the results of the search including information resources to be included in the initial set.

29. (Original) A method as recited in claim 28, wherein the step of identifying an initial set of information resources further includes identifying information resources linked to or from information resources which are the results of the search, the former information resources also to be included in the initial set.

30. (Original) A method as recited in claim 29, wherein the step of defining initial authoritativeness information includes selecting an initial numerical authoritativeness value for each of the information resources of the initial set.

31. (Original) A method as recited in claim 30, wherein the step of defining initial authoritativeness information further includes defining an authority value and a hub value for each of the information resources of the initial set.

32. (Original) A method as recited in claim 31, wherein the defined authority values and hub values are processed as vectors, each vector containing a respective term corresponding with each respective one of the information resources of the initial set, and having stored therein the

value defined for that respective one of the information resources of the initial set.

33. (Original) A method as recited in claim 31, wherein:

an initial hub value is defined as 1 if the information resource was found by the keyword-based query search, and 0 if the information resource is linked to or from the information resources which are the results of the search; and

an initial authority value is defined as 0 for all information resources.

34. (Original) A method as recited in claim 31, wherein, for each iteration:

the hub value for an information resource is updated as the sum of the authority values for authority information resources which point to the hub information resource; and

the authority value for an information resource is updated as the sum of the hub values for hub information resources which are pointed to by the information resource.

35. (Original) A method as recited in claim 34, wherein each iteration further includes normalizing the hub and authority values for the information resources.

36. (Original) A method as recited in claim 20, wherein:

each information resource is associated with an authority value and a hub value; and

the step of producing a final set of information resources includes selecting information resources from the set based on the hub and authority values.

37. (Original) A method as recited in claim 36, wherein the step of selecting includes selecting information resources whose hub values or authority values have greatest magnitudes.

38. (Original) A method as recited in claim 36, wherein the step of selecting includes selecting a plurality of successive communities, selecting each selective community including selecting information resources whose hub values or authority values have greatest magnitudes of those information resources not already selected for a prior community.

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39. (Original) A system for executing a search of information resources, the resources having content-based links between each other, to identify a desired subset of the information resources which satisfy a desired criterion, the system comprising:

 means for identifying an initial set of information resources;

 means for defining initial authoritativeness information for the initial set;

 means for using the initial authoritativeness information as input authoritativeness information, to execute the steps of:

  (i) producing first authoritativeness information about a set of information resources pointed to by links in resources of the input set, and

  (ii) producing second authoritativeness information about a set of information resources having links that point to resources of the input set; and

 means for producing a final set of information resources based on the first and second authoritativeness information.

40. (Original) A system as recited in claim 39 , wherein the information resources include World Wide Web pages, and the content-based links include hyperlinks.

41. (Original) A system as recited in claim 39 , wherein the means for identifying an initial set of information resources includes means for obtaining, as an input, an information resource containing subject matter of interest.

42. (Original) A system as recited in claim 41, wherein the means for identifying an initial set of information resources includes means for identifying a further set of information resources linked to the input information resource.

43. (Original) A system as recited in claim 39, wherein:

 the means for executing the steps of producing first and second authoritativeness information is operative in a series of iterations;

 the initial authoritativeness information is used as input authoritativeness information for a first iteration; and

the produced first and second authoritativeness information is a result of the iteration, the first and second authoritativeness information produced in a given iteration to be used as the input authoritativeness information for the next iteration.

44. (Original) A system as recited in claim 39 further comprising

means for executing the steps of producing first authoritativeness information and producing second authoritativeness information in a series of iterations until a predetermined condition is met.

45. (Original) A system as recited in claim 44, wherein the predetermined condition includes the execution of a specified number of executions.

46. (Original) A system as recited in claim 44, wherein the predetermined condition includes a steady state in which further iterations result in substantially the same results.

47. (Original) A system as recited in claim 44, wherein the means for identifying an initial set of information resources includes means for executing a keyword-based query search, results of the search including information resources to be included in the initial set.

48. (Original) A system as recited in claim 47, wherein the means for identifying an initial set of information resources further includes means for identifying information resources linked to or from information resources which are the results of the search, the former information resources also to be included in the initial set.

49. (Original) A system as recited in claim 48, wherein the means for defining initial authoritativeness information includes means for selecting an initial numerical authoritativeness value for each of the information resources of the initial set.

50. (Original) A system as recited in claim 49, wherein the means for defining initial authoritativeness information further includes means for defining an authority value and a hub

value for each of the information resources of the initial set.

51. (Original) A system as recited in claim 50, wherein the defined authority values and hub values are processed as vectors, each vector containing a respective term corresponding with each respective one of the information resources of the initial set, and having stored therein the value defined for that respective one of the information resources of the initial set.

52. (Original) A system as recited in claim 50, wherein:

an initial hub value is defined as 1 if the information resource was found by the keyword-based query search, and 0 if the information resource is linked to or from the information resources which are the results of the search; and

an initial authority value is defined as 0 for all information resources.

53. (Original) A system as recited in claim 50, wherein, for each iteration:

the hub value for an information resource is updated as the sum of the authority values for authority information resources which point to the hub information resource; and

the authority value for an information resource is updated as the sum of the hub values for hub information resources which are pointed to by the information resource.

54. (Original) A system as recited in claim 53, wherein each iteration further includes normalizing the hub and authority values for the information resources.

55. (Original) A system as recited in claim 39, wherein the means for producing a final set of information resources includes means for selecting information resources from the set based on their hub and authority values.

56. (Original) A system as recited in claim 55, wherein the means for selecting includes means for selecting information resources whose hub values or authority values have greatest magnitudes.

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57. (Original) A system as recited in claim 55, wherein the means for selecting includes means for selecting a plurality of successive communities, selecting each successive community including information resources whose hub values or authority values have greatest magnitudes of those information resources not already selected for a prior community.

58. (New) A method of executing a search of pages having content-based links between each other, the method comprising:

identifying an initial set of pages including a first page and a second page which is linked with said first page;

defining initial authoritativeness information for the initial set of pages, comprising:

producing first authoritativeness information about the first page; and

producing second authoritativeness information about the second page based on the first authoritativeness information about the first page;

using the initial authoritativeness information as input authoritativeness information, and iteratively refining said initial set of pages and determining authoritativeness information for said refined set of pages; and

producing a final set of pages based on authoritativeness information for said refined set of pages.

59. (New) The method of claim 58, wherein said second page is linked with said first page by one of a link in said first page that points to said second page and a link in said second page that points to said first page.

60. (New) The method of claim 59, wherein identifying said initial set of pages comprises:

identifying a first set of pages by one of a keyword-based search and a term-matching algorithm;

identifying a second set of pages including pages which include a link to a page in said first set of pages; and

identifying a third set of pages, said first set of pages including a link to a page in said third set of pages, said initial set of pages comprises said first, second and third set of pages.

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61. (New) The method of claim 60, wherein said authoritativeness information for said refined set of pages comprises hub and authority values for said refined set of pages.

62. (New) The method of claim 61, wherein said identifying said initial set of pages comprises identifying pages based on a keyword-based search.

63. (New) The method of claim 61, wherein said identifying said initial set of pages comprises identifying pages by using a term-matching algorithm.

64. (New) The method of claim 61, wherein said first authoritativeness information about the first page comprises a hub value for said first page, and said second authoritativeness information about the second page comprises an authority value for said second page.

65. (New) The method of claim 64, wherein said producing said second authoritativeness information about the second page comprises producing an authority value for said second page based on a hub value for said first page.

66. (New) The method of claim 65, further comprising:
    determining hub values and authority values for pages in said initial set of pages; and
    processing said authority values and said hub values for said initial set of pages as vectors, each of said vectors including a respective term corresponding with each respective one of the pages of the initial set, and having stored therein the value defined for that respective one of the pages of the initial set.

67. (New) The method of claim 66, wherein an initial hub value for a page is defined as 1 if the page was found by the keyword-based query search, and 0 if the page is linked to or from the pages which are the results of the search, and
    wherein an initial authority value is defined as 0 for all pages.

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68. (New) The method of claim 67, wherein for an iteration performed in said iteratively refining said initial set of pages:

 a hub value for a page is updated as the sum of the authority values for authority pages which point to the hub page; and

 an authority value for a page is updated as a sum of hub values for hub pages which are pointed to by the page.

69. (New) The method of claim 68, wherein said iteration further includes normalizing hub and authority values for the pages.

70. (New) A system for executing a search of pages having content-based links between each other, the system comprising:

 means for identifying an initial set of pages including a first page and a second page which is linked with said first page;

 means for defining initial authoritativeness information for the initial set of pages, comprising:

  means for producing first authoritativeness information about the first page; and

  means for producing second authoritativeness information about the second page based on the first authoritativeness information about the first page;

 means for using the initial authoritativeness information as input authoritativeness information, and iteratively refining said initial set of pages and determining authoritativeness information for said refined set of pages; and

 means for producing a final set of pages based on authoritativeness information for said refined set of pages.

71. (New) A programmable storage medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of executing a search of pages having content-based links between each other, the method comprising:

 identifying an initial set of pages including a first page and a second page which is

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linked with said first page;

defining initial authoritativeness information for the initial set of pages, comprising:

producing first authoritativeness information about the first page; and

producing second authoritativeness information about the second page based on the first authoritativeness information about the first page;

using the initial authoritativeness information as input authoritativeness information, and iteratively refining said initial set of pages and determining authoritativeness information for said refined set of pages; and

producing a final set of pages based on authoritativeness information for said refined set of pages.